

ABBASI ET AL.  
"Mobile Wireless Communication Devices With  
Internal Antennas And Replaceable Housings"  
Atty. Docket No. CS20120RL

Appl. No. 10/074,160  
Confirm. No. 5037  
Examiner C. Craver  
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### Allowability of Claims Over Pennanen

#### Rejection Summary

5               Claims 19 and 20 stand rejected under 35 USC 102(e) as being anticipated by U.S. Patent No. 6,566,812 (Pennanen). Office Action, 18 December 2003, para. 2.

10              Claims 1 and 10 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 6,566,812 (Pennanen). Office Action, 18 December 2003, para. 3. The statutory bases for the rejections of Claim 2-9 and 11-18 is not stated explicitly though the examiner relies upon Pennanen in para. 4 of the Detailed Action.

#### Discussion of Allowability of Independent Claim 19

15              Contrary to the Examiner's assertion, Pananen does not disclose or suggest a wireless communication handset, comprising:

20              ...a wireless communication handset body having electrical communications circuitry coupled to an antenna;

                a housing portion mounted on the handset body adjacent at least a portion of the antenna;

                an antenna loading member disposed between the housing portion and the antenna,

25              the antenna loading member comprises an electrically conductive material spaced apart from the antenna by a dielectric.

The Examiner misconstrues the auxiliary antenna (400) of Pennanen as a housing portion. Contrary to the Examiner's assertion, the

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auxiliary antenna (400) of Pennanen is mounted externally on the radio telecommunications device (301) by attaching members (407). Pennanen, FIG. 6. The auxiliary antenna (400) of Pennanen includes a planar antenna element (401) separated from a conductive ground plane (403) by a dielectric (402), wherein a second ground plane portion (406) is coupled to the ground plane (403). See col. 4, line 44 - col. 5, line 18 and FIGs. 4 & 5. The element (401) of Pennanen is an antenna ground plane, not a loading member. Claim 19 and the claims that depend therefrom are thus patentably distinguished over Pennanen.

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#### Discussion of Allowability of Claim 20

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Regarding Claim 20, Pennanen does not disclose or suggest, in combination with the limitations of Claim 19, wherein the "... antenna is an internal antenna, the antenna loading member comprises a conductive member separated from the internal antenna by a dielectric material." In Pennanen, the auxiliary antenna (400) is mounted externally on a radio telecommunications device (301), which includes a separate internal antenna (306). See FIGs. 3 & 6 of Pennanen. Claim 20 is thus patentably distinguished over Pennanen.

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#### Discussion of Allowability of Independent Claim 1

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Contrary to the Examiner's assertion, Pananen dose not disclose or suggest a "system for a wireless communication handset with interchangeable housing portions" comprising:

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... a wireless communication handset body having electrical communications circuitry coupled to an antenna;

5            a first housing portion having a first shape and a second housing portion having a second shape, the second shape of the second housing portion different than the first shape of the first housing portion;

the first and second housing portions interchangeably mounted on a common portion of the handset body,

10            the first housing portion loading the antenna with a first load when the first housing portion is mounted on the common portion of the handset body,

the second housing portion loading the antenna with the same load as the first housing portion when the second housing portion is mounted on the common portion of the handset body.

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Contrary to the Examiner's assertion, Pennanen does not disclose first and second housing portions having first and second corresponding shapes. The Examiner's references to the various passages of Pennanen to support this contention are misplaced. At col. 4, line 44-col. 5, line 18, 20 Pennanen discusses an auxiliary antenna (400) including a planar antenna element (401) separated from a conductive ground plane (403) by a dielectric (402) and a second ground plane portion (406) coupled to the ground plane (403). The auxiliary antenna (400) is an external antenna that coupled to a housing, not a housing portion. At col. 5, lines 19-27, Pennanen discusses an alternative auxiliary antenna embodiment illustrated in FIG. 5 of Pennanen. 25 Neither of the auxiliary antennas illustrated in FIGS. 4 and 5 of Pennanen are housing portions.

The Examiner concedes that Pennanen "... fails to disclose that the loads/frequencies are the same or that the housing portions are interchangeable.

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The Examiner's assertion that it would have been obvious "... that the antenna loading would have been the same, and to utilize the two embodied antenna

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devices interchangeably so as to provide two different antenna coverage characteristics ... " is entirely unsupported by the prior art. Mere plausibility (as suggested by the Examiner) is insufficient motivation to modify or combine. MPEP 2143.01, "Suggestion or Motivation to Modify the References". Claim 1 and the claims that depend therefrom are thus 5 patentably distinguished over the Pananen.

Discussion of Allowability of Independent Claim 10

10                  Contrary to the Examiner's assertion, Pananen does not disclose or suggest a "wireless communication handset system having interchangeable housing portions" comprising:

15                  ... a wireless communication handset body having electrical communications circuitry coupled to an antenna;  
20                  a first housing portion of a first material having a first antenna loading characteristic and a second housing portion of a second material having a second antenna loading characteristic different than the first antenna loading characteristic of the first housing portion,  
25                  the first and second housing portions interchangeably mounted on a common portion of the handset body adjacent the antenna;  
30                  an antenna loading feature disposed between one of the first and second housing portions and the antenna,  
                        the antenna having a first resonant frequency when the first housing portion is mounted on the common portion of the handset body,  
                        the antenna having a second resonant frequency the same as the first resonant frequency when the second housing portion is mounted on the common portion of the handset body.

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As noted above, the auxiliary external antennas in FIG. 4 and 5 of Pennanen are not housings. Moreovoer, the Examiner contends that the antenna loading of the auxiliary external antennas in FIG. 4 and 5 of Pennanen would have been the same (absent any specific disclosure in Pennanen), yet 5 Claim 1 recites that the first and second housing portions have different loading characteristics. Thus assuming, arguendo, that the auxiliary antennas of Pennanen were housings, there is no indication that they would have different antenna loading. Moreover, the Examiner suggests dubiously that the auxiliary external antennas in FIG. 4 and 5 of Pennanen would have the same loading. Pennanen nevertheless fails to disclose or suggest an antenna loading feature, and the Examiner fails to address this limitation. Claim 10 and the claims that depend therefrom are thus patentably distinguished over the Pennanen.

15 Discussion of Allowability of Claims 2 & 14

Regarding Claim 2, Pennanen does not disclose or suggest, in combination with the limitations of Claim 1, wherein

20 ... the antenna is an internal antenna,  
a first internal portion of the first housing portion adjacent  
the internal antenna when the first housing portion is mounted on  
the handset body,  
25 a second internal portion of the second housing portion  
adjacent the internal antenna when the second housing portion is  
mounted on the handset body,  
30 a first external portion of the first housing portion opposite  
the first internal portion thereof different than a second external  
portion of the second housing opposite the second internal  
portion thereof.

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Regarding Claim 14, Pennanen does not disclose or suggest, in combination with the limitations of Claim 10, whercin "... the antenna is an internal antenna, a first internal portion of the first housing portion adjacent the internal antenna when the first housing portion is mounted on the handset body, a second internal portion of the second housing portion adjacent the internal antenna when the second housing portion is mounted on the handset body."

Contrary to the Examiner's assertion, the body portions (406, 506) of the auxiliary antennas are in fact conductive ground planes, not internal housing portions. Pennanen, col. 5, line 7-10 & lines 29-36. Claims 2 and 14 are thus patentably distinguished over Pennanen.

#### Discussion of Allowability of Claim 3

Regarding Claim 3, Pennanen does not disclose or suggest, in combination with the limitations of Claim 1, that the "... internal antenna is a planar inverted F antenna." Claim 3 is thus patentably distinguished over Pennanen.

#### Discussion of Allowability of Claim 4

Regarding Claim 4, Pennanen does not disclose or suggest, in combination with the limitations of Claim 1 and any intervening claims, that the "... first housing portion has a first antenna loading characteristic, the second housing portion has a second antenna loading characteristic made substantially the same as the first antenna loading characteristic of the first

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housing portion by an antenna loading feature disposed between second housing portion and the internal antenna when the second housing portion is mounted on the handset body." Pennanen makes no disclosure or suggestion of an antenna loading feature that compensates for a difference in the loading features of the auxiliary antennas. Moreover, consistent with the Examiner's argument that the auxiliary antennas of Pennanen would have the same loading feature, there would be no need for an antenna loading feature. Claim 4 is thus patentably distinguished over Pennanen.

10        Discussion of Allowability of Claim 5

Regarding Claim 5, Pennanen does not disclose or suggest, in combination with the limitations of Claim 4, that the "... antenna loading feature is a variation in a portion of the second housing portion adjacent the antenna." Claim 5 is thus further patentably distinguished over Pennanen.

15        Discussion of Allowability of Claim 6

Regarding Claim 6, Pennanen does not disclose or suggest, in combination with the limitations of Claim 4, that the "... antenna loading feature is a discrete member disposed between an internal side of the second housing portion and the internal antenna when the second housing portion is mounted on the handset body." The Examiner's contention that the element (501) of Pennanen is an antenna loading element is misplaced. Element (501) in Pennanen is a portion of the auxiliary antenna. Pennanen, col. 5, lines 20-27. Moreover, the auxiliary antenna element (501) of Pennanen is disposed outside

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the telephone housing. Claim 6 is thus further patentably distinguished over Pennanen.

Discussion of Allowability of Claim 7

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Regarding Claim 7, Pennanen does not disclose or suggest, in combination with the limitations of Claim 6, that the "... the antenna loading feature comprises a conductive material." The Examiner's contention that the element (501) of Pennanen is an antenna loading element is misplaced. 10 Element (501) in Pennanen is a portion of the auxiliary antenna. Pennanen, col. 5, lines 20-27. Moreover, the auxiliary antenna element (501) of Pennanen is disposed outside the telephone housing. Claim 7 is thus further patentably distinguished over Pennanen.

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Discussion of Allowability of Claim 8

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Regarding Claim 8, Pennanen does not disclose or suggest, in combination with the limitations of Claim 6, wherein the "... antenna loading feature comprises a dielectric material." The antenna element (501) of Pennanen is conductive. Pennanen, col. 5, lines 20-23. Moreover, the auxiliary antenna element (501) of Pennanen is disposed outside the telephone housing. Claim 8 is thus further patentably distinguished over Pennanen.

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## **Discussion of Allowability of Claim 9**

Regarding Claim 9, Pennanen does not disclose or suggest, in combination with the limitations of Claim 6, wherein the "... antenna loading feature comprises a recessed portion on an inner side of the second housing portion adjacent the antenna." There is no motivation of suggestion in Pennanen for the modification suggested by the Examiner, suggesting that the Examiner's rejection is based on hindsight reconstruction, a practice admonished repeatedly by the Board of Patent Appeals and Interferences.

Claim 9 is thus further patentably distinguished over Pennanen.

## Discussion of Allowability of Claim 11

Regarding Claim 11, Pennanen does not disclose or suggest, in combination with the limitations of Claim 10, wherein the "... first material comprising a first finish with a first antenna loading characteristic, the second material comprising a second finish with a second antenna loading characteristic different than the first antenna loading characteristic of the first finish." With regard to Claims 11 and 13, the Examiner contends that the materials and loading characteristics of the auxiliary antennas (400 and 500) are different, though the Examiners argues elsewhere (in the rejection of Claims 1 & 10) that these characteristics would have been the same. In co. 5, lines 21-27, Pennanen states that the only differences between the embodiments of FIGs. 4 & 5 are the orientations of conductive elements (410 & 501) and the holes (502). Claim 11 is thus further patentably distinguished over Pennanen.

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Discussion of Allowability of Claim 12

Regarding Claim 12, Pennanen does not disclose or suggest, in combination with the limitations of Claim 11, wherein the "... first and second housing portions have substantially the same external shape." In Pennanen, the auxiliary antenna (500) include holes and the radiating member (501) is oriented differently than the embodiment of FIG. 4. Claim 11 is thus further patentably distinguished over Pennanen.

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Discussion of Allowability of Claim 13

Regarding Claim 13, Pennanen does not disclose or suggest, in combination with the limitations of Claim 11, wherein the "... the first finish is a metallic material applied to an exterior of the housing." Pennanen does not discloses a housing portion with a metallic finish. The Examiner's assertion that the auxiliary antennas of Pennanen are housing is beyond the pale. Claim 13 is thus further patentably distinguished over Pennanen.

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Discussion of Allowability of Claim 14

Regarding Claim 14, Pennanen does not disclose or suggest, in combination with the limitations of Claim 10, wherein the "... antenna is an internal antenna, a first internal portion of the first housing portion adjacent the internal antenna when the first housing portion is mounted on the handset body, a second internal portion of the second housing portion adjacent the

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internal antenna when the second housing portion is mounted on the handset body." Claim 14 is thus further patentably distinguished over Pennanen.

Discussion of Allowability of Claim 15

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Regarding Claim 15, Pennanen does not disclose or suggest, in combination with the limitations of Claim 10, wherein the "... antenna loading feature is a variation in wall thickness of the first and second housing portions." Contrary to the Examiner's assertion, Pennanen makes no disclosure of varying antenna loading based on housing wall thickness. Claim 10 is thus further patentably distinguished over Pennanen.

Discussion of Allowability of Claim 16

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Regarding Claim 16, Pennanen does not disclose or suggest, in combination with the limitations of Claim 15, wherein the "... antenna loading feature is a discrete member disposed between an internal side of one of the first and second housing portions and the internal antenna." Contrary to the Examiner's suggestion, Pennanen makes no disclosure of a discrete antenna loading feature. Claim 16 is thus further patentably distinguished over Pennanen.

Discussion of Allowability of Claim 17

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Regarding Claim 17, Pennanen does not disclose or suggest, in combination with the limitations of Claim 16, wherein the "... antenna loading

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feature comprises a conductive material." The Examiner's contention that the element (501) of Pennanen is an antenna loading element is misplaced. Element (501) in Pennanen is a portion of the auxiliary antenna. Pennanen, col. 5, lines 20-27. Moreover, the auxiliary antenna element (501) of Pennanen is disposed outside the telephone housing. Claim 17 is thus further patentably distinguished over Pennanen.

Discussion of Allowability of Claim 18

10                 Regarding Claim 18, Pennanen does not disclose or suggest, in combination with the limitations of Claim 16, wherein the "... antenna loading feature comprises a dielectric material." The Examiner's contention that the element (501) of Pennanen is an antenna loading element is misplaced. Element (501) in Pennanen is a portion of the auxiliary antenna. Pennanen, col. 5, lines 20-27. Moreover, the auxiliary antenna element (501) of Pennanen is disposed outside the telephone housing. Claim 18 is thus further patentably distinguished over Pennanen.

Prayer For Relief

20                 In view of the amendments and the discussion above, the Claims of the present application are in condition for allowance. Kindly withdraw any rejections and objections and allow this application to issue as a United States Patent without further delay.